

MISSOURI MONTHLY VITAL STATISTICS

Provisional Statistics

From The

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Focus. . . Missouri Migration Patterns: 1990-2000

Missouri's population increased by 478,138 persons (9.3%) during the 1990-2000 decade—more than double the total growth of the 1980s (200,307). This was the largest increase, both in terms of actual persons and percentage growth, in the past 70 years. However, Missouri was below the national population increase of 13.2% and ranked 30th among all states in terms of percentage increase. These and other findings were part of an analysis of migration patterns and trends in Missouri, using data from Missouri Vital Statistics birth and death files and from the US Census Bureau. This article reports the findings of the migration study.

Demographic analysis of population change involves the examination of three core components: births, deaths,

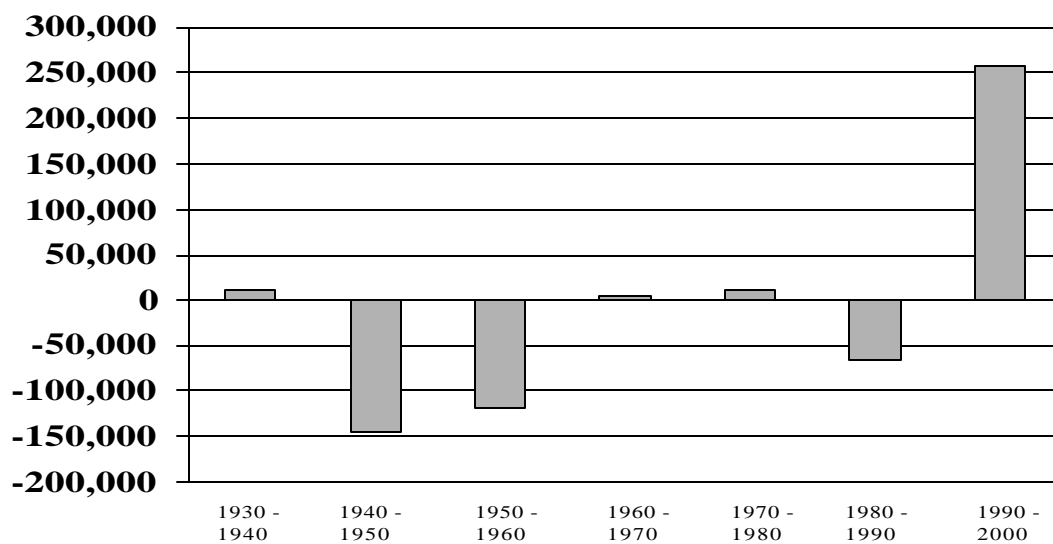
and net-migration. Of these components, migration tends by far to have the greatest variation. As illustrated in Table 1, births and deaths maintained relative stability during the 1970-2000 period, while migration patterns fluctuated widely. Net migration figures in the table are derived by calculating the population change (i.e., the change from the beginning to the end of the decade), then subtracting the 'natural increase' (births minus deaths) from the population change. The result (or residual) is the 'net-migration'. It is interesting to note that the 'natural increase' for Missouri during the decade of the 1990s was lower than in any decade in the past 50 years. This was primarily due to an increase in deaths.

Figure 1 illustrates the changes in Missouri migration

Table 1							
Components of Change for Missouri Population: 1970-2000							
Beginning Year	Ending Year	Beginning Population	Components of Change			Ending Population	Natural Increase*
			Births	Deaths	Net Migration		
1970	1980	4,677,623	728,404	500,067	10,806	4,916,766	228,337
1980	1990	4,916,766	762,363	496,454	-65,602	5,117,073	265,909
1990	2000	5,117,073	752,800	533,120	258,458	5,595,211	219,680

* Natural Increase takes the birth total and then subtracts out deaths

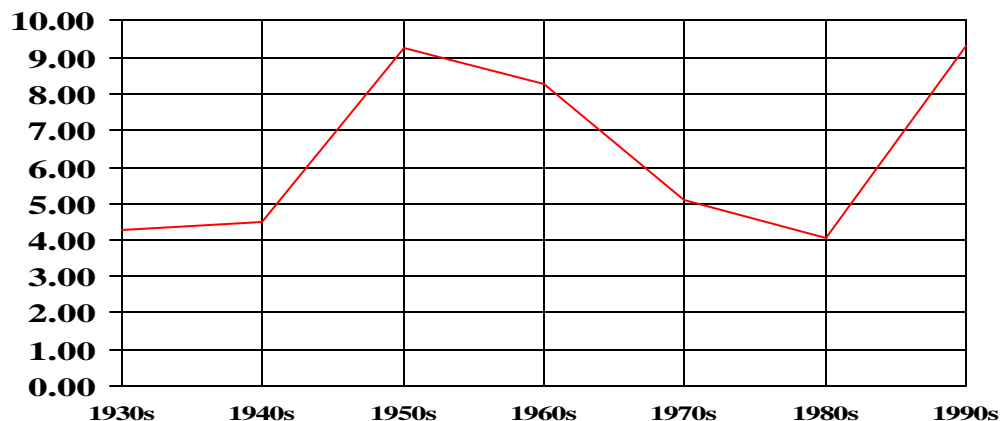
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Figure 1**Missouri Migration Trends: 1930-2000**

patterns over the past several decades. Of particular note was the dramatic change in migration during the 1990-2000 time period. The net-migration increase of 258,458 persons was far greater than anything Missouri had experienced in the recent past. In fact, Missouri routinely has been at the break-even level or suffered net-migration losses of greater than 100,000 persons every decade going back to the 1930s. It should be noted, however, that Missouri's population increase during the 1990s might be slightly inflated due to a more complete counting of

persons in 2000 compared to 1990.

The large changes in migration during the decade of the 1990s fueled the doubling of Missouri's population growth rate. Figure 2 highlights the fluctuations in terms of percent increase in population in Missouri. Ironically, in the decades of the 1950s and 1960s Missouri was able to post similar growth rates despite static (1960s) or even substantial loss (1950s) in net migration (Fig. 1). Much higher birth rates were the underlying cause for the high rates of population increase seen in the middle of the

Figure 2**Missouri Percent Increase in Population: 1930-2000**

century in Missouri.

Breaking migration down by age and sex (Table 2) gives us some additional insights. Migration totals by age alone (see All Persons Total in Table 2) show that the population increase was shared among all age groups. The largest increase (80,305 persons) in 2000 was seen in the 10-19 age group. By comparison, this same age group was the only cohort during the 1980s to show a substantial net-increase in migration. It is reasoned that this cohort increase is a result of out-of-state residents moving to Missouri for college education or for military service. Many of these persons apparently are leaving the state as they age into their twenties. For instance, in the 1980s the 20-29 year old age group had the largest out-

the past ten years. The 2000 Census enumerated 118,592 Hispanic persons living in the state. The great majority (79%) of the total increase in this ethnic group can be attributed to net migration. The birth to death ratio of the Hispanic population is remarkably different from the general population. For all persons in Missouri there were 1.4 births for every death. Among Hispanics the ratio of births to deaths was slightly greater than 5 to 1.

The analysis of migration by age and sex (Table 2) revealed several points. First, males and females share very similar net migration totals through the age of 20. This is intuitive to what one might expect, given that children often move as parts of a family. However, gender differences emerge in the 20-24 and 25-29 year

Table 2

Net Migration Summary by Age, Gender, Race and Hispanic Origin: Missouri 1990-2000

Age In 1990	Age In 2000	All Persons Total	All Persons Males	All Persons Females	White Total	Black Total	Hispanic Total	Hispanic Males	Hispanic Females
--	0-9	22,408	11,522	10,901	16,161	-703	11,294	5,830	5,466
0-9	10-19	80,305	40,694	39,611	58,874	15,682	9,229	4,937	4,292
10-14	20-24	11,964	1,917	10,047	6,639	420	7,374	4,651	2,723
15-19	25-29	3,498	-1,395	4,892	-276	-1,548	6,094	3,645	2,449
20-34	30-44	69,786	39,829	29,957	52,250	11,261	8,975	4,995	3,980
35-54	45-64	50,443	28,575	21,868	41,711	6,293	2,398	1,421	977
55+	65+	19,996	12,307	7,679	17,999	2,260	-380	-157	-223
Total		258,400	133,449	124,955	193,358	33,665	44,984	25,322	19,664

migration (net loss of 53,538 persons). This trend continued in the 1990s when the 20-29 cohort posted the smallest total gains (15,462 persons). Broken down further, the 20-24 sub-group accounts for 77% (11,964 persons) of the total in-migration for the 20-29 cohort.

A summary of net-migration by race is also displayed in Table 2. It must be noted at the outset that calculating net-migration by race involves some estimating of 2000 race totals because of the changes in the format of the 2000 Census that allowed for persons to check multiple races. Because of this change, the white migration totals may be somewhat underestimated. Even so, the general trend is that both whites and blacks posted positive net-migration totals. Examining the age distribution shows that, in general, both the white and black population groups mirror the trends seen in the age distribution for all persons.

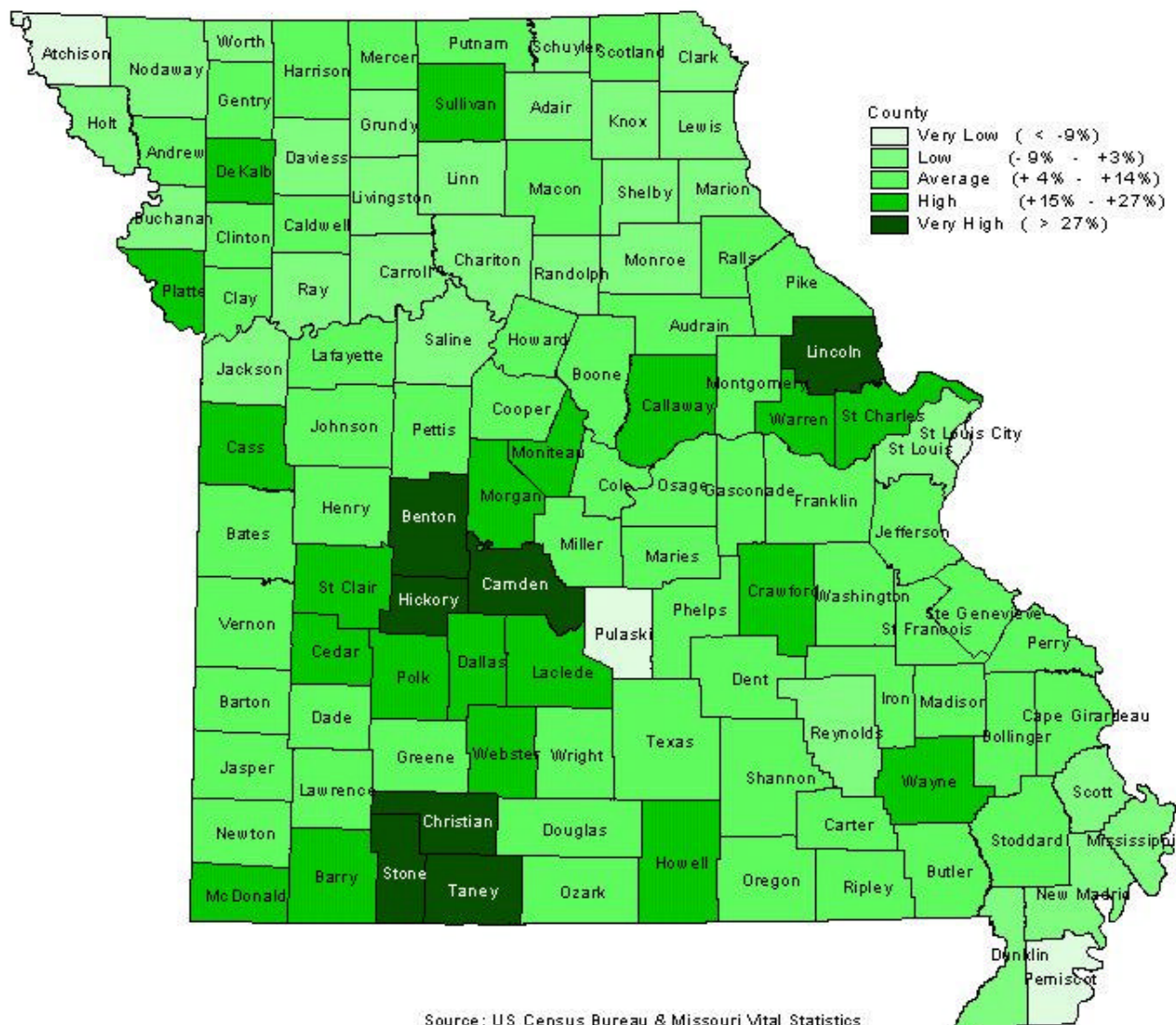
Missouri's Hispanic population nearly doubled during

old groups. For these two cohorts, women account for over 95% of the total net-increase. The only net loss in migration occurs among 25-29 year old males (-1,395). However, in the final three age cohorts (30-44, 45-64, and 65+) males make up a majority of the surplus migration total. In fact, males sum to slightly under 60% of the total migration for persons 30 or older. In terms of total migration, the two sexes have nearly equal shares of the total net migration. Males account for 51.6% of net in-migration and women make up the remaining 48.4%.

The right columns of Table 2 illustrate Hispanic net-migration totals by age and sex. This sub-group has a much higher proportion of in-migrants that are male and that come from the younger age groups. Males make up about 56% of the total Hispanic net migration. This is about 5% higher than the proportion of males for Missouri as a whole. Also, nearly half (46%) of the total net-migration of Hispanics came from persons under the age

Map 1

Percent Increase Missouri Migration 1990-2000



of 20. In addition, the only age cohort with a net out-migration of persons was the 65+ age group.

Other migration trends can be analyzed geographically. Map 1 shows county migration totals as a percentage of the total population. It is important to note that at the county level much of the population movement, in both directions, can be attributed to intra-state migration.

Regionally, several patterns emerge from studying Map 1. There are four counties with the highest rates of

out-migration (below - 9%). This includes two rural counties (Atchison and Pemiscot) that lie in the extreme northwest and southeast corners of the state. Also in the high out-migration group are St. Louis City and Pulaski County. All four of these counties had also suffered a net out-migration of population during the decade of the 1980s. During the 1990s, St. Louis City had both the highest rate of out-migration (-16%) and the largest net loss in persons (-65,201) of all Missouri counties. St.

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Louis City has experienced net out-migration in every decade going back to the 1930-1940 time period. The city maintained the same migration rate it had during the 1980s decade (-16%). Pulaski County had a somewhat lower rate of -10% net out-migration (-4,333 persons). In Pulaski County the US Army base at Fort Leonard Wood makes up a large portion of the population. Consequently the county population is subject to fluctuations in the size and organizational plans of the military. As evidence, group quarters population in Pulaski County declined by -16% (884 persons) over the decade.

The second category of counties, the percent increase/decrease in migration was fairly small. All of these counties fell well below the state average increase of 9%. This group includes a large block of counties in northern Missouri, the two largest population counties in the state (Jackson and St. Louis County), and a large portion of the Bootheel counties. Both Jackson and St. Louis County lost 2% of their total population to out-migration. However, Buchanan County (which includes the city of St. Joseph) ended a five-decade long trend of population loss due to out-migration. During this past decade, Buchanan gained 948 persons in migration. Although only a modest gain of 1%, it represented a major transition from the -8% migration rate that the county posted during the 1980s. Also, while most of the rural northern counties in Missouri still fall well below the state average in relation to migration percentages, the magnitude and in many cases the direction of the population flow has been altered. Knox County in northeast Missouri is an example of a county that historically has consistently lost population to migration, but in this past decade posted positive net-migration. In fact, statewide there were only 15 counties (13%) with negative migration rates this past decade. This is in sharp contrast to the 1980s when 65 counties (56%) suffered net losses in migration.

Nearly half (56 of 115) of all counties fit into the middle range of values on Map 1. This category includes counties with migration rates that center around the state average of 9%. These counties have a range of 4%-14% positive net in-migration. As illustrated in Map 1, counties within this category are located across the state and are not confined to a particular geographic location.

The fourth category of migration growth percentages displayed in Map 1 includes those counties with migration rates up to three times the state rate (15%-27%). This grouping includes a variety of counties located throughout the state. The suburban counties of Platte and Cass in the

Kansas City metropolitan area and Warren and St. Charles counties in the St. Louis metropolitan area are included in this group. In addition, several of the central lake counties (St. Clair, Morgan and Laclede), a pair of southwestern counties (McDonald and Barry) and an assortment of other select counties, all fall into this category. Of particular note, both McDonald and Barry counties saw substantial increases (> 1,500 persons each) in their Hispanic population during the 1990s.

The final category includes those counties with a migration rate that was greater than three times the state rate (> 27%). Seven counties achieved this threshold. Stone, Taney and Christian in southwest Missouri, in and around Branson, make up a block of counties that rank among the 100 fastest growing counties in the nation. In fact, Christian County ranks 32nd among all counties in the nation in terms of rate of growth over the ten year period (1990-2000). Furthermore, these counties filled the top three spots in the state, based on migration rates. Christian had the highest migration rate at 56% and the three counties combined for an overall rate of 53%. Camden, Hickory and Benton counties in the Lake of the Ozarks region form a second block of counties that have very high migration rates. They ranked fourth through sixth, respectively, in terms of migration rates. Combined together they had a 33% in-migration rate. Finally, Lincoln County, north of St. Charles, has developed into a St. Louis suburb in the past few decades and consequently has seen its in-migration rate continue to accelerate.

To summarize, Missouri's population increased by relatively large amounts during the past 10 years. In absolute terms, Missouri had the highest population increase of the past 50 years. In terms of percentage growth, Missouri migration matched the high water marks of the 1950s and 1960s. The difference between the 1950s era growth and the 1990s era growth was that for the former decade, growth was bolstered by high birth rates; for the latter, it was the result of much higher migration totals. At the county level, Missouri had many fewer counties lose population through migration this decade, compared to the 1980s. The recreational lake areas in the state continued to see high in-migration rates. In the Kansas City and St. Louis metropolitan areas, the older central segments (Jackson County, St. Louis County and St. Louis City) all suffered losses in terms of net migration, while many of the suburban counties surrounding them had relatively high in-migration rates.

Provisional Vital Statistics for May 2001

Live births decreased in May as 6,422 Missouri babies were born compared with 6,532 in May 2000. However, cumulative births for 5- and 12-month periods ending with May both show increases.

Deaths increased in May as 5,152 Missourians died compared with 4,410 one year earlier. Cumulative deaths for January-May also show an increase, but deaths decreased for the 12 months ending with May.

The Natural increase in May was 1,270 (6,422 births minus 5,152 deaths) compared with 2,122 in May 2000. For the

cumulative 5- and 12-month periods ending with May, the natural increase was higher than it was last year.

Marriages and **Dissolutions of marriage** both increased in May, but decreased for the cumulative 5- and 12-month periods ending with May. For the 12 months ending with May the marriage-to-divorce ratio increased from 1.71 to 1.72.

Infant deaths increased for each of the three time periods shown below, but the infant death rate of 7.7 per 1,000 live births was the same as the previous year's rate for 12 months ending with May.

PROVISIONAL VITAL STATISTICS FOR MAY 2001

Item	May				Jan.-May cumulative				12 months ending with May				
	Number		Rate*		Number		Rate*		Number		Rate*		
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	1999	2000	2001
Live Births	6,532	6,422	13.8	13.4	31,026	32,284	13.3	13.8	76,103	78,107	13.7	13.7	13.9
Deaths	4,410	5,152	9.3	10.8	24,345	25,029	10.4	10.7	55,128	54,858	9.9	9.9	9.8
Natural increase ...	2,122	1,270	4.5	2.7	6,681	7,255	2.9	3.1	20,975	23,249	3.8	3.8	4.1
Marriages	4,365	4,878	9.2	10.2	15,346	15,162	6.6	6.5	44,511	43,541	7.9	8.0	7.8
Dissolutions	1,932	2,084	4.1	4.3	11,343	10,224	4.9	4.4	25,954	25,345	4.5	4.7	4.5
Infant deaths	44	72	6.7	11.2	238	297	7.7	9.2	588	600	7.7	7.7	7.7
Population base (in thousands)	...	...	5,595	5,642	...	...	5,595	5,642	...	...	5,519	5,567	5,615

* Rates for live births, deaths, natural increase, marriages and dissolutions are computed on the number per 1000 estimated population. The infant death rate is based on the number of infant deaths per 1000 live births. Rates are adjusted to account for varying lengths of monthly reporting periods.

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